

## **On the road towards decarbonised logistics: A Swedish perspective on success factors and future challenges**

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### **Background**

To reduce carbon emissions to net zero by 2050, logistics systems and freight transport need to drastically accelerate the transition towards fossil-free and efficient transport systems. While some solutions lie in moving to other modes than road, road-based freight will still be important to reach all destinations, and to link for example rail and sea transport with shippers and recipients.

A myriad of different actions can be taken that contribute to reduce the road freight emissions. They differ to character, cost, scope and which actors that are involved. Albeit these actions commonly share the need to reduce the demand for freight transport and the negative effects of operating them. Logistics service providers and operators have main roles to play, as have the shippers who procure the logistics service. This presentation takes a corporate perspective and zooms in on organizational and strategic challenges and opportunities for greening logistics.

### **Purpose**

The purpose of the presentation is to provide an overview of present and future opportunities and challenges for logistics service providers, operators, and shippers in their strive to green logistics systems. The opportunities and challenges are of various nature but will focus on organizational and strategic matters.

### **Methodology**

The presentation is based on a long-term research collaboration between Malmö LBC, a Swedish Carrier-owned Cooperative, and researchers at Linköping University. The collaboration is built on an action research approach. Several ideas from Malmö LBC have been analysed by the researchers, and several suggestions from the researchers have been jointly developed and applied at Malmö LBC. This presentation points to some of the examples and analyses their consequences. Presentation will be given jointly by the company and one of the researchers.

### **Results**

The results include a wide range of examples of which some are introduced below. Since the research builds on the collaboration between industry and academia, we will provide a brief reflection on our experiences. The presentation ends with some thoughts on future development.

### **Achievements to date**

Over the past decade, it has become apparent that to achieve the transition companies need to change profoundly. A key is to abandon the idea of environmental departments and instead focus on infusing environmental knowledge and engagement throughout the company. In the case of Malmö LBC, this has been facilitated by some suggestions from the researchers, which have been co-developed and adapted before implementation. In addition, working according to these processes frees up time to spend on development rather than routines.

One example is a more thorough process management (Navarro et al., 2018), which built on already present processes at Malmö LBC. The processes were mapped, and responsibility distributed among several employees. The processes now support a more standardized way to include environmental considerations in the existing processes, and the development of new inclusions. The processes cover the operations, the management, and the strategic development. However, the need for management engagement is high in order to be willing to invest in similar future-oriented activities and development.

Another example is a tool for monitoring environmental progress – Green Karma (Cronemyr & Huge-Brodin, 2021) – which is based on QFD. Green Karma supports a proactive development through the attainment of ‘e-credits’ for greening initiatives. This tool supports the documentation of initiatives, their progression towards full implementation and also demonstrates to external stakeholder what Malmö LBC actually work with in order to increase its environmental sustainability.

The most critical stakeholder is the customer who buys the transport or logistics service. Several examples will demonstrate the importance of both process management and Green Karma when Malmö LBC has gained new customers. Innovation coupled with sustainable development have been key success factors in most cases recently, which have awarded Malmö LBC a profitability and a growth rate beyond expectations. And this is not despite but because of the investments – mainly in time – into new ways of working as well as regular collaboration with the researchers.

To maintain and further develop its position in the future, Malmö LBC also considers the demand from publicly owned customers and policy measures as crucial.

### **The role of research in practice and of practice in research**

Besides the tools and models that the researchers have suggested, the long-standing collaboration has contributed with regular time for reflections in Malmö LBC, as well as new networks providing more knowledge on environmental initiatives as well as other important insights. For the researchers, the close and long-term collaboration has provided unique opportunities to follow the development of greening freight operations, and based on the mutual trust between the project partners the depth of the knowledge is a major advantage.

### **Future opportunities and challenges**

In the future, Malmö LBC foresee that being progressive and credible in terms of environmental performance is a prerequisite for being able to be a first-rate logistics

provider. Public sector-actors will increasingly require high-standard environmental solutions, which can also be expected from large and global private customers. The standards we note today – such as Science based targeting – will become more spread and required by more customers. Logistics providers with high management engagement and processes and tools in place have many advances. The collaboration between the researchers and Malmö LBC has been prosperous for both parties, and resulted in important actions and insights, however the reliance on the qualitative approach is sometimes considered as lower quality research. This is a challenge to overcome.

Cronemyr, P. & Huge-Brodin, M. (2021) Green Karma – promoting environmental initiatives by adapting and using QFD as a proactive tool, published online  
<https://doi.org/10.1080/14783363.2021.2004887>

Navarro, P. , Cronemyr, P. & Huge-Brodin, M. (2018) “Greening logistics by introducing process management – a viable tool for freight transport companies going green”. Supply Chain Forum: an International Journal, published online, doi: 10.1080/16258312.2018.1486141.